



AF/Gp 2764

SD5926/S87506  
Patent Application

#12

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellants: Pryor et al. Group: 2764  
Serial No.: 08/791,724 Paper No.: 12  
Filed: 01-29-97 Examiner: Kemper, M.  
For: METHOD OF PREDICTING A CHANGE IN AN ECONOMY

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MAY - 1 2000  
TC 2700 MAIL ROOM**REPLY BRIEF**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

In clarification of issues presented in Examiner's Answer mailed 3-1-2000, Appellants provide the following reply to supplement arguments in Appellants' appeal brief, paper number 10.

**STATUS OF CLAIMS**

Examiner was correct in explicitly noting that Claims 18-19 have been withdrawn from consideration as not directed to the elected invention by original presentation. As stated by Appellant and confirmed by the Examiner, Claims 1-8 and 10-17 are for consideration in this appeal.

**ISSUES**

Issue 4 as stated on page 4 of the Appeal Brief contains a typographical error. Page 21 of the Appeal Brief correctly states Issue 4:

Claims 16 and 17 are directed to a specific type of computer with specific physical structure.

### **GROUPING OF THE CLAIMS**

Examiner is correct in noting that under Issue 2, Claims 1, 2, 5, and 10 are separate. Appellants note that as stated on pages 5-6 of the Appeal Brief, claims within a claim grouping stand or fall together, but are separate from all other claim groupings and separately patentable claims.

### **PRE- OR POST-COMPUTER ACTIVITY IS NOT REQUIRED (ISSUE 1)**

Appellants' Issue 1 was responsive to the Examiner's rejection of claims as not providing either pre-computer or post-computer process activity or a practical application. Appellants appreciate that the Examiner concedes that pre-computer or post-computer process activity is not required for an invention to be patentable under 35 U.S.C. § 101.

### **JUICY WHIP: THRESHOLD OF USEFULNESS UNDER 35 U.S.C. § 101 (ISSUE 2)**

*Juicy Whip, Inc. v. Orange Bang, Inc.*, while concerned with a different issue than the present case, did require the CAFC to construe 35 U.S.C. § 101. The CAFC reasoned that an invention is "useful" under §101 "if it is capable of providing some identifiable benefit." *See Juicy Whip*, 185 F.3d 1364, 1366 (CAFC 1999).

The CAFC's reasoning about utility is applicable to the present case. Appellants' claimed process provides an identifiable benefit, and accordingly is a useful process under 35 U.S.C. § 101. Appellants' process predicts behavior of a system (an economy) too complex to otherwise predict. Broad applicability of a useful tool does not make the tool nonstatutory. For example, a hammer can be used in many applications, and a hammer is statutory subject matter without claims reciting specific uses. Similarly, Appellants' tool, limited to a process for predicting behavior of an economy, is limited to a useful process (or practical application) and statutory subject matter.

## **PREDICTING BEHAVIOR OF A COMPLEX SYSTEM IS A PRACTICAL APPLICATION (ISSUE 2)**

The Examiner founds a rejection on the assertion that a model is not a practical application and that a prediction is not a useful, concrete, tangible result. *See Examiner's Answer*, pp. 6-7.

Appellants traverse.

Prediction of behaviors of complex systems is fundamental to much of contemporary technology. The time, expense, and risk of testing prototypes would doom many products if there were no tools that could predict the performance of models of the products (often called "virtual prototyping"). For example, engines, body styles, transmissions, and other car sub-assemblies can be modeled: one specific combination results in virtual car #1, another combination results in virtual car # 2, and so on. Each modeled virtual car system can be evaluated. Less optimal combinations can be ruled out, without building and testing prototypes. The best resulting virtual car can then be manufactured. Time to market, time to adopt new technology and safety features, and development costs are all drastically reduced by the prediction tools: eminently practical results from an eminently practical application.

Appellants' claimed process is limited to prediction of an economy's behavior. The Examiner notes that a digital filtering process is statutory subject matter; note that claiming the use of the filtered signal is not needed for the claim to be statutory. Similarly, Appellants' predicted change in an economy is statutory without claiming the specific use of the predicted behavior.

Appellants have given several examples of uses of the predicted behavior: the stock market, the Federal Reserve using interest rates, the U.S. monetary economy tracked using the gross domestic product (GDP), as well as non-monetary economies such as military confrontations. All of these demonstrate that the predicted behavior itself is a result useful in many ways; the prediction tool claimed is accordingly limited to the practical application of producing the useful result. Appellants' cited numerous patents regarding the practical utility of predicting the behavior of an economy.

**MULTIPROCESSOR COMPUTER DOES NOT INCLUDE EVERY TYPE OF COMPUTING DEVICE**  
**(ISSUES 2 AND 4)**

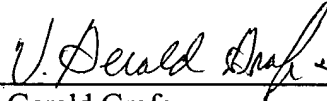
Appellants' Claims 2, 5, 10, and 16 are limited to practice on a specific type of computer. The Examiner notes that Appellants' specification states that a general purpose computer could be used. *See* Examiner's Answer, pp. 8-9 and p. 11, last paragraph. The claims are the subject of this appeal, however, and Appellants' Claims (2, 5, 10, and 16) are limited to practice on specific computers. They are further limited to process steps involved in causing those specific computers to provide the desired result. For example, generating and routing messages are ongoing necessary steps, as stipulated by the repetition of steps e and f in Claim 10. Message communication to other agents on each processor in a multiprocessor computer can be an extremely important function whenever decisions are independently modeled on parallel processors. This is not mere input at the start of a simulation and output at the end of the simulation but an ongoing messaging and communication function among multiple processors.

Method Claims 2, 5, and 10 are not drawn to practice on each and every type of computer. Even if the task is nonstatutory (which Appellants traverse), controlling a specific type of computer is limited to a practical application in the technological arts and is statutory. *See* MPEP § 2106.II.A, "A practical application of a computer-related invention is statutory subject matter," citing *In re Alappat*, 33 F.3d 1526, 1543, 31 USPQ2d 1545, 1556-57 (Fed. Cir. 1994) (in banc); *Arrhythmia*, 958 F.2d 1053, 1056, 22 USPQ2d 1033, 1036 (Fed. Cir. 1992).

Similarly, apparatus Claim 16 does not encompass any and every computer: Claim 16 is limited to "a multiprocessor computer" with each of the multiple processors comprising specific hardware and software elements, *e.g.*, message communication, routing to other processors, message communication within the processor, and independently accessible data and software storage. Claim 16, limited to a multiprocessor computer for predicting a change in an economy, defines a specific machine in terms of its physical structure, and is statutory without further evaluation of the underlying process. *See* MPEP § 2106.IV,B,2(a), "If a claim defines a useful machine or manufacture by identifying the physical structure of the machine or manufacture in terms of its hardware or hardware and software combination, it defines a statutory product,"

citing *Lowry*, 32 F.3d 1579, 1583, 32 USPQ2d 1031, 1034-35 (Fed. Cir. 1994); *Warmerdam*, 33 F.3d 1354, 1361-62, 31 USPQ2d 1754, 1760 (Fed. Cir. 1994).

Respectfully submitted,



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V. Gerald Grafe  
Attorney for Appellant  
Reg. No. 42,599  
Ph: (505) 284-4404  
Sandia National Laboratories  
P.O. Box 5800/MS 0161  
Albuquerque, NM 87185-0161

**CERTIFICATION UNDER 37 CFR 1.8**

I hereby certify that this correspondence and documents referred to herein were deposited with the United States Postal Service as first class mail addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on the date shown below.

Date: 4/19/2000 By: Marilynn Kachel